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REMARKS

Claims 1-20 are pending in the application. Claims 1-20 are canceled, new claims 21-40 are added. Upon entry of this amendment, claims 21-40 will be pending in this application.

Claims 2-4 and 8-15 were rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 1-8 of U.S. Patent No. 5,789,246. As claims 2-4 and 8-15 have been canceled, this rejection has been rendered moot.

Claims 1, 6, 7, 11-16, 19, and 20 were provisionally rejected as claiming the same invention as that of claims 1-9, and 17 of co-pending Application No. 09/115,920. As claims 1, 6, 7, 11-16, 19 and 20 have been canceled, this rejection has been rendered moot.

Claims 17 and 18 were rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 5,789,246. As claims 17 and 18 have been canceled, this rejection has been rendered moot.

Claim 5 was rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 5,789,246. As claim 5 has been canceled, this rejection has been rendered moot.

Claims 17 and 18 were rejected under 35 U.S.C. §112, first paragraph, "because the specification, while being enabling for transferring the genetically altered hepatocyte to the same from which they are derived, does not reasonably provide enablement for transferring the genetically altered hepatocyte to a different subject."

First, Applicants thank the Examiner for the acknowledging that an autologous transfer is

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enabled by the specification and direct the attention of the Examiner to new claim 24, above, directed to autologous treatment.

Second, Applicants respectfully traverse Examiner's rejection with respect to the lack of enablement.

The Examiner states on page 7 of the Office Action that whether a claimed invention provides sufficient guidance to make and use the claimed invention is based on analysis of the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill, the level of predictability in the art, the amount of direction provided by the inventor, the existence of working examples, and whether the quantity of the any necessary experimentation to make or use the invention based on the content of the disclosure is "undue." The Examiner continues, on page 7, stating that the claims are directed to "a method wherein cells from one organism are transferred to a second different organism, essentially performing xenotransplantation. While transplantation of tissues from one individual to another who demonstrates a tolerance due to histocompatibility is generally accepted in the art, the successful transfer of cells and tissues from one species to another continues to pose several technical difficulties due to immunological barriers."

The Applicants acknowledge the Examiner statement that transplantation of tissues from one individual to another who demonstrates a tolerance due to histocompatibility is generally accepted in the art and direct the attention of the Examiner to claim 22 which is directed to just such allogenic transfer, in this case, of genetically modified hepatocyte precursors.

Having dealt with the above issues of autologous and allogenic transplantation, then, the

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only issue remaining is the issue of alleged lack of enablement in regard to xenotransplantation.

The Examiner, on page 8, relies on the reference by Una Ryan (1995) which describes hyperacute rejection as a major obstacle to xenotransplantation.

Rejection of the claims on the ground that the specification is not enabling with respect to the scope of the claims requires the Examiner to provide evidence or technical reasoning substantiating these doubts. (MPEP Sections 2164.04 and 706.03). The Examiner has cited no prior art as to why he believes that the scope of these claims is unduly broadened with respect to the teachings in the specification. If the Examiner's rejection is related to an "undue scope" rejection, the Examiner should identify the subject matter that is considered to be enabled. (*Id.*). The Examiner has, in fact, identified the subject matter that is considered enabled, in particular the autologous and homologous transplantation, as described above.

The application discloses on page 2, line 1 "The hepatocyte precursors may be derived from any animal, preferably a mammal. . . . Preferably, the hepatocyte precursors are derived from humans." After disclosing methods of isolating and expanding populations of hepatocyte precursors, the application teaches, on page 8, line 4 "such expanded hepatocyte precursors may be transplanted into a patient." The application continues, on page 8, line 11, "such hepatocyte precursors may be genetically engineered."

Evaluation of enablement should be made by comparison with art known at the time of the invention. The references by Ryan (1995), Ringdon (2000), and Cozzi (1995) were published two to seven years after the filing of the 08/115,939 application four to nine years after the filing date of the 07/741,128 application, to which the present application claims priority. At best these

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references establish the views of their authors concerning the state of the field at the time of their writing. Reconsideration is respectfully requested.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned directly.

Prompt and favorable consideration of this Response is respectfully requested.

AUTHORIZATION

No additional fees are believed to be necessary. However, the Commissioner is hereby authorized to charge any fees, including the fees for the net addition of claims, which may be required for this Response, or credit any overpayment to Deposit Account No. 50-0436.

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In the event that an Extension of Time is required, or which may be required in addition to that requested in a petition for an Extension of Time, the Commissioner is requested to grant a petition for that Extension of Time which is required to make this response timely and is hereby authorized to charge any fee for such an Extension of Time or credit any overpayment for such an Extension of Time to Deposit Account No. 50-0436.

Respectfully submitted,

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